

### **Listing of Claims**

This listing of claims replaces all prior versions and listings of claims in the application:

1 – 180. (Cancelled)

181. (Withdrawn - previously presented) A system that determines a cost of insurance comprising:

- a device that writes and records one or more characteristics related to a level of risk of operating a vehicle through an automotive communication link;

- means for a party associated with the vehicle to review the recorded characteristics and review how the recorded characteristics affect a cost of insurance;

- means for the party to control whether to submit the recorded characteristics to an insurer through a publicly accessible distributed network;

- means for assigning a level of risk to the operation of the vehicle based, at least in part on, the recorded characteristics; and

- means for determining a cost of an insurance policy based on the assigned level of risk.

182. (Withdrawn - previously presented) The system of claim 181 further comprising means for writing and recording location data within the device and means for associating the location information to the level of risk of operating the vehicle.

183. (Withdrawn - previously presented) The system of claim 181 where the device that writes and records characteristics related to the level of risk of operating the vehicle through the automotive communication link comprises a portable plug-in module that does not lose its content when the portable plug-in module is not connected to a vehicle power source.

184. (Withdrawn - previously presented) The system of claim 183 where the portable plug-in module is configured to interface an on board diagnostic port coupled to a vehicle bus that is in communication with a first processor local to the vehicle and is configured to interface a second processor remote from the vehicle.

185. (Withdrawn - previously presented) The system of claim 181 where the device that writes and records characteristics related to the level of risk of operating the vehicle through the automotive communication link and the means for the party to control whether to submit the recorded characteristics to the insurer through the publicly accessible distributed network comprises factory installed original equipment.

186. (Withdrawn - previously presented) The system of claim 181 where the characteristics related to the level of risk of operating the vehicle comprise data related to a driver's operating behavior.

187. (Withdrawn - previously presented) The system of claim 181 where the characteristics related to the level of risk of operating the vehicle comprises data generated by a single vehicle sensor.

188. (Withdrawn - previously presented) The system of claim 181 where the characteristics related to the level of risk of operating the vehicle consists of mileage data.

189. (Withdrawn - previously presented) The system of claim 181 where the device is configured to receive and record data received from an accelerometer that measures the vehicle's acceleration or deceleration.

190. (Withdrawn - previously presented) The system of claim 181 further comprising a timing device that time-stamps the characteristics related to the level of risk of operating the vehicle by generating timing information that is written to a memory of the device.

191. (Withdrawn - previously presented) The system of claim 190 where the timing information comprises a time of day information.

192. (Withdrawn - previously presented) The system of claim 181 where the level of risk comprises a safety score.

193. (Withdrawn - previously presented) The system 181 where the level of risk comprises a rating factor that is processed to generate a percentage discount or a surcharge to the cost of the insurance policy.

194. (Withdrawn - previously presented) The system of claim 181 where the means for the party associated with the vehicle to review how the recorded characteristics affect a cost of insurance to the user comprises means for reviewing how the recorded characteristics affect a prospective cost of insurance.

195. (Withdrawn - previously presented) The system of claim 181 where the means for assigning the level of risk to the operation of the vehicle based on the recorded characteristics resides on a Web server remote from the means for the party associated with the vehicle to review the recorded characteristics and review how the recorded characteristics affect the cost of insurance.

196. (Withdrawn - previously presented) A system for monitoring, pricing, and providing a distance-based vehicle insurance comprising:

- an input device configured to interface and communicate with a vehicle bus that transfers information to and from in-vehicle devices;

- a first processor that copies distance-based data repetitively from the vehicle bus through the input device;

- a memory that retains the distance-based data copied from the vehicle bus at a predetermined interval, the memory retains the content when not connected to a vehicle power source; and

- a second processor that assigns a level of insurable risk to a vehicle operator based at least in part on the distance-based data written to the memory.

197. (Withdrawn - previously presented) The system of claim 196 where the level of insurable risk comprises a rating factor used by the second processor to determine a cost of insurance, where the distance-based data comprises mileage data.

198. (Withdrawn - previously presented) The system of claim 197 where the cost of insurance comprises a future cost for insurance coverage.

199. (Withdrawn - previously presented) The system of claim 196 further comprising a global positioning system that generates location information, the first processor writes the location information received from the locating system to the memory at the predetermined interval, and the second processor assigns the level of risk to the vehicle operator based at least in part on the distance-based data and the location information.

200. (previously presented) A risk management system comprising:

- a network server system that provides an interface having the functionality for establishing relationships between users that track vehicle data and levels of risk in a usage based insurance system;

- a database that stores relationship data indicating the relationships established between vehicle data relating to one or more users and an insured's monitored vehicle data, where the relationship data identifies, for an insured or other selected users, relationships between relative levels of risk and the monitored vehicle data; and

- an interface module that provides functionality to search the database for a risk assessment of vehicle data, where the interface module is responsive to a request from a user by using the relationship data and the monitored vehicle data to identify the level of risk.

201. (Withdrawn - previously presented) A system that monitors data transferred among components within a vehicle that is used to determine one or more levels of risk or is used to determine a cost of insurance comprising:

- a vehicle bus that is used to send and receive data within a vehicle;

- a in-vehicle monitor that filters the data that is sent and received across the vehicle bus by selectively acquiring vehicle data related to a level of risk in operating the vehicle or an insurable risk, the selected vehicle data is acquired at a predetermined interval from one or more vehicle sensors;

- a processor programmed to write and retrieve the selected vehicle data acquired by the in-vehicle monitor at a predetermined interval;

- a memory that retains the selected vehicle data, the memory retains the selected vehicle data when not connected to an in-vehicle power source or an out of vehicle power source; and

- a transmitter configured to electrically encode the selectively acquired vehicle data related to a level of risk in operating the vehicle or an insurable risk read from the memory and send the encoded data through a publicly accessible distributed network.

202. (Withdrawn - previously presented) The system of claim 201 where the in-vehicle monitor comprises a wireless monitor that comprises a short range radio link that enables data communication to a range that does not exceed ten meters.

203. (Withdrawn - previously presented) A system of claim 201 where the transmitter comprises a wireless transmitter-receiver configured to receive a new release of an existing software product within the system.

204. (Withdrawn - previously presented) A system of claim 201 where the one or more vehicle sensors comprises a single sensor that detects or measures a condition by converting a non-electrical energy into an electrical energy.

205. (Withdrawn - previously presented) A system that monitors data collected from a vehicle bus that is used to determine a cost of insurance comprising:

- a data monitor that monitors a vehicle bus that transfers data among electronic components within a vehicle;

- a portable storage device that receives vehicle data from the vehicle bus to a first memory within the vehicle, the portable storage device retains content when not connected to a vehicle power source;

- a second memory within the portable storage device that receives meta data that is logically linked to the vehicle data written to the portable storage device within the vehicle each time the vehicle data is written to the portable storage device;

- a first processor programmed to link the portable storage device to a network of computers associated with an identifying number on a publicly accessible distributed network and is accessible through software that allows access to insurance files related to an existing insurance policy or a renewal of an insurance policy and allows access to other software related to the insurance files;

- a database operatively linked to the portable storage device to store the vehicle data and the meta data written to the portable storage device, the database comprising a storage system of records; and

- a second processor programmed to generate a rating factor based on the vehicle data and meta data written to the database;

where the second processor is programmed to calculate an insurance rate or a surcharge to a premium of an insurance policy based on the vehicle data and the meta data stored in the database or a discount to the premium of the insurance policy based on the vehicle data and the meta data stored in the database.

206. (Withdrawn - previously presented) A method of determining a level of risk involving the operation of a vehicle consists of:

- monitoring a data transfer among operating sensors of a vehicle;
- selecting vehicle data automatically from a data stream within the vehicle;
- retaining the vehicle data in a format that can be stored and retrieved; the vehicle data is stored at a programmed interval and is retained independently of in-vehicle devices that control engine functions, manage powertrain functions, or provide entertainment and comfort functions;
- receiving the vehicle data from a communication link that is remote from the vehicle; and
- determining a level of risk based on the vehicle data transmitted via the communication link.

207. (Withdrawn - previously presented) The method of claim 206 further comprising estimating a plurality of positions of the vehicle by trilaterating a plurality of radio navigation signals and determining the level of risk based on the estimated plurality of positions and the vehicle data.

208. (Withdrawn - previously presented) The method of claim 206 where the format comprises a portable format configured to run on one or more in-vehicle systems and remote computer systems and the communication link comprises a wireless link.

209. (Withdrawn - previously presented) The method of claim 206 further comprising retaining data that measures the vehicle's acceleration or deceleration and determining the level of risk based on the vehicle data and the acceleration or deceleration data.

210. (Withdrawn - previously presented) The method of claim 206 further comprising time-stamping the vehicle data as it is stored at the programmed interval.

211. (Withdrawn - previously presented) The method of claim 206 further comprising determining a rating factor based on the vehicle data and setting or adjusting a cost of insurance based on the rating factor.

212. (Withdrawn - previously presented) The method of claim 206 where the vehicle data consists of data derived from a device that measures a single parameter.

213. (Withdrawn - previously presented) The method of claim 206 where the vehicle data consists of mileage data.

214. (Withdrawn - previously presented) The method of claim 206 where the level of risk is based on a driver's actual operating behavior and the data is received through a wireless link.

215. (Withdrawn - previously presented) A data logging system that tracks the operation of a vehicle, comprising:

- a removable storage device comprising a first memory portion that may be read from and is written to in a vehicle and a second memory portion that may be read from and is written to in the vehicle, the second memory portion retains attributes of data logically associated with each data item stored in the first memory portion;

- a central processing unit that reads data from an automotive bus that transfers data from vehicle sensors to other automotive components and writes the data to the first memory portion;
- and

- a communication device that links the removable storage device to a network of computers associated with an identifying number on a publicly accessible distributed network and is accessible through software that allows a user to access files related to a measured level of risk related to an operation of a vehicle;

where the first memory portion and the second memory portion retain data when a vehicle power source is not coupled to the first memory portion and the second memory portion, respectively.

216. (Withdrawn - previously presented) The data logging system of claim 215 further comprising a navigation tracking system in communication with the central processing unit, the navigation tracking system being programmed to process continuously transmitted coded data used to identify a location of the vehicle.



217. (Withdrawn - previously presented) The data logging system of claim 215 where the first memory portion retains data related to driving behavior and the communication device comprises a wireless communication device.

218. (Withdrawn - previously presented) The data logging system of claim 217 where the central processing unit is configured to record an output of a sensor that detects or measures a single condition by converting a non-electrical energy into an electrical energy.

219. (Withdrawn - previously presented) The system of claim 215 where the measured level of risk comprises a safety score for operating the vehicle.

220. (Withdrawn - previously presented) The system of claim 215 where the attributes of data comprises a time stamp identifying a time of day.

221. (Withdrawn - previously presented) The data logging system of claim 215 where the central processing unit is operative to identify or derive acceleration or deceleration data from the automotive bus and record the acceleration or deceleration data in the first memory portion and further stores a corresponding timestamp of a current time the acceleration or deceleration data is stored in the second memory portion.

222. (Withdrawn - previously presented) The data logging system of claim 215 where the central processing unit is programmed to scramble an access code to the data written to the first memory portion.

223. (previously presented) A risk management system comprising:

a computer system that serves an interface module that monitors a vehicle operating characteristic or a vehicle operator action of one or more vehicles or operators in which the computer system is configured to establish relationships between the vehicle operating characteristic or the vehicle operator action and levels of risk that are involved in an operation of one or more vehicles;

a database that stores relationship data representing associations between vehicle data associated with a plurality of vehicles or operators and an operator or insurer monitored vehicle data, where the relationship data quantifies, for one or more vehicles or operators, relationships between relative levels of risk in the operation of the one or more vehicles and the monitored vehicle data; and

an interface module that provides functionality to search the database for a risk assessment of the vehicle data, where the interface module is responsive to a request to quantify driver behavior by processing the monitored vehicle data to render a driver safety score, where the driver safety score establishes a level of risk associated with insuring a selected operator or a vehicle.

224. (previously presented) A risk management system comprising:  
a computer system that serves an interface module that is configured to establish relationships between data that represents a vehicle operating characteristic and a vehicle operator action of one or more users and data that represents levels of risk involved in an operation of one or more vehicles;

a database that stores relationship data representing associations between vehicle data associated with a plurality of vehicles or operators and an operator or insurer monitored vehicle data, where the relationship data quantifies, for one or more vehicles or operators, relationships between relative levels of risk in the operation of the one or more vehicles and the monitored vehicle data; and

an interface module that provides functionality to search the database for a risk assessment of the vehicle data, where the interface module is responsive to a request to quantify driver behavior by processing the monitored vehicle data to render a driver safety score, where the driver safety score establishes a level of risk associated with insuring a selected user or a vehicle.

225. (Previously presented) A risk management system comprising:  
a computer system that serves an interface module that is configured to establish relationships between data that represents a vehicle operating characteristic or a vehicle operator action and levels of risk that are involved in an operation of one or more vehicles;  
a database that stores relationship data representing associations between vehicle data associated with a plurality of vehicles or operators and monitored vehicle data, where the relationship data quantifies, for one or more vehicles or operators, relationships between relative levels of risk in the operation of the one or more vehicles and the monitored vehicle data; and  
an interface module that provides functionality to search the database for a risk assessment of vehicle data, where the interface module is responsive to a request to quantify driver behavior by processing the monitored vehicle data to generate driver safety data.

226. (Previously presented) The risk management system of claim 225 where the driver safety data comprises a driver safety score.

227. (Previously presented) The risk management system of claim 226 where the driver safety score is processed by the computer system to generate actuarial information.

228. (Previously presented) The risk management system of claim 226 where the driver safety score is processed by the computer system to generate or verify insurance information.

229. (Previously presented) The risk management system of claim 226 where the driver safety score comprises a weighted sum of one or more operating factors.

230. (Previously presented) The risk management system of claim 226 where the driver safety score is derived from the monitored data collected from the vehicle and other data independent from the monitored data.

231. (Previously presented) The risk management system of claim 226 where the driver safety score comprises a dynamic score that reflects changes in a driving behavior.

232. (Previously presented) The risk management system claim 226 where the driver safety score comprises a rating factor that quantifies an insurable risk.

233. (Previously presented) The risk management system claim 226 where the driver safety score comprises a single numerical value.

234. (Previously presented) The risk management system claim 226 where the driver safety score comprises an expression representing a level of risk associated with a particular driver.

235. (Previously presented) The risk management system of claim 225 further comprising a computer storage media accessible to the computer system that causes a processor to modify terms of an insurance policy.

236. (Previously presented) The risk management system of claim 225 further comprising a computer storage media accessible to the computer system that causes a processor to determine an insurance premium.

237. (Previously presented) The risk management system of claim 225 further comprising a computer storage media accessible to the computer system that causes a processor to adjust an insurance premium.

238. (Previously presented) The risk management system of claim 225 where the network computer system comprises a back-end processor that is remote from the vehicle that generates the data.

239. (Previously presented) The risk management system of claim 225 where the relative levels of risk are based on comparisons of a user's vehicle operating habits to vehicle operating habits of others.

240. (Withdrawn - previously presented) A risk management system comprising:  
a receiver configured to receive encrypted data from a device and restore the encrypted data to its original form;

a computer system that communicates with the receiver and an interface device that is configured to establish relationships between data that represents one or more vehicle operating characteristics or vehicle operator actions and data that represents levels of risks associated with operating one or more vehicles;

a database that stores relationship data representing associations between vehicle data associated with a plurality of users and a selected user's monitored vehicle data, where the relationship data quantifies, for each selected user, relationships between relative levels of risk in the operation of the one or more vehicles and the monitored vehicle data;

an interface module that provides functionality to search the database for a risk assessment of vehicle data, where the interface module is responsive to a request to quantify driver behavior by processing the monitored vehicle data to render a driver safety score; and

a memory that stores software that causes a processor to determine a cost of insurance based on the driver safety score.

241. (Withdrawn - previously presented) The risk management system of claim 240 where the encrypted data is restored at a location remote from the vehicle.

242. (Withdrawn - previously presented) The risk management system of claim 240 where the encrypted data is received from an in-vehicle device remote from the computer system.

243. (Withdrawn - previously presented) The risk management system of claim 240 where the encrypted data is received from a second computer system remote from the computer system and the vehicle.

244. (Withdrawn - previously presented) The risk management system of claim 240 where the cost of insurance comprises an increase in an insurance premium or a decrease in an insurance premium.

245. (Withdrawn - previously presented) The risk management system of claim 240 where the cost of insurance comprises a base cost of an insurance policy.

246. (Withdrawn - previously presented) The risk management system of claim 240 where the cost of insurance comprises a change in the terms of an insurance policy.

247. (Withdrawn - previously presented) The risk management system of claim 240 where the driver safety score is derived from the monitored data collected from the vehicle and actuarial data that is independent from the monitored data.

248. (Withdrawn - previously presented) A risk management system comprising:  
a receiver configured to receive vehicle data; and  
a computer system that communicates with the receiver to gather and store vehicle data that represents one or more vehicle operating characteristics or vehicle operator actions in an intermediate memory for subsequent use and retrieval, the computer system provides functionality to translate the vehicle data into a format compatible with an insurer's software;  
the insurer's software causes a processor to quantify an insurable risk associated with a particular driver by processing the vehicle data retained in the operating memory and data associated with the operating characteristics or vehicle operator actions of a plurality of other drivers;  
the insurer's software further causes the processor to generate insurance data associated with a proposed or existing vehicle insurance contract that binds the insurer to an indemnity against a pre-specified risk of loss.

249. (Withdrawn - previously presented) The risk management system of claim 248 where the vehicle data comprises a driver safety score.

250. (Withdrawn - previously presented) The risk management system of claim 248 further comprising a computer storage media accessible to the computer system that causes the processor to modify terms of an insurance policy.

251. (Withdrawn - previously presented) The risk management system of claim 248 further comprising a computer storage media accessible to the computer system that causes the processor to determine an insurance premium.

252. (Withdrawn - previously presented) The risk management system of claim 248 further comprising a computer storage media accessible to the computer system that causes the processor to adjust an insurance premium.

253. (Withdrawn - previously presented) The risk management system of claim 248 further comprising a computer storage media accessible to the computer system that causes a processor to generate a driver safety score that comprises a rating factor.

254. (Withdrawn - previously presented) The risk management system of claim 253 where the insurance information comprises data associated with a cost of insurance that is based on the driver safety score.

255. (Withdrawn - previously presented) The risk management system of claim 248 further comprising a computer storage media accessible to the computer system that causes a processor to generate a plurality of driver safety scores.

256. (Withdrawn - previously presented) The risk management system of claim 248 where the computer system comprises a surrogate computer system located at a different point in a distributed network than the processor but operates in cooperation with the processor.

257. (Withdrawn - previously presented) The risk management system of claim 248 where the data associated with the operating characteristics or vehicle operator actions of the plurality of other drivers comprises an aggregate of data.

258. (Withdrawn - previously presented) The risk management system of claim 248 where the insurance data comprises adjusting an insurance cost for the particular driver when the processor detects a decrease in a level of insurable risk associated with the particular driver.



259. (Withdrawn - previously presented) The risk management system of claim 248 where the insurance data comprises adjusting an insurance cost for the particular driver when the receiver receives vehicle data.

260. (Withdrawn - previously presented) The risk management system of claim 248 where the insurance data comprises adjusting an insurance cost for the particular driver when the processor detects a change in a level of insurable risk associated with the particular driver.

261. (previously presented) A risk management system comprising:

- an input device configured to interface and communicate with a vehicle bus that transfers information to and from in-vehicle devices;
- a first processor that copies distance-based data repetitively from the vehicle bus through the input device;
- a memory that retains the distance-based data copied from the vehicle bus at a predetermined interval, the memory retains the content when not connected to a vehicle power source;
- a second processor that assigns a level of insurable risk to a vehicle or an operator based at least in part on the distance-based data written to the memory;
- a network server system that provides an interface having the functionality for establishing relationships between users that track vehicle data and levels of risk in a usage based insurance system;
- a database that stores relationship data indicating the relationships established between a plurality of vehicles or operators and monitored vehicle data, where the relationship data identifies, for one or more selected vehicles or operators, relationships between relative levels of risk and the monitored vehicle data; and
- an interface module that provides functionality to search the database for a risk assessment of vehicle data, where the interface module is responsive to a request by using the relationship data and the monitored vehicle data to identify risk associated with selected vehicles or operators.

262. (previously presented) The risk management system claim 226 where the driver safety score comprises a designation representing a level of risk associated with a particular driver.